

Amendments to the Claims

Please amend Claims 1, 14, 22 and 30. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently Amended) A system for managing a set of connections between a plurality of clients and a plurality of storage servers based on system load, comprising:
 - a plurality of storage servers having a set of resources partitioned thereon, each server further comprising:
 - at least one connection of the set of connections being a client communication connection from the storage server to at least one client;
 - a storage device for providing at least one volume of storage partitioned across the plurality of servers, such that a first portion of a given resource is located on a storage device associated with a first storage server of the plurality of storage servers, and such that a second portion of a given resource is located on a storage device associated with a second storage server of the plurality of storage servers;
 - a load monitor process connected to communicate with other load monitor processes on at least one other server of the plurality of storage servers for generating a measure of overall system load, and for generating a measure of client load on each of the plurality of storage servers; and
 - a client connection distribution process, responsive to the load monitor process, and capable of repartitioning the set of connections for distributing client load by moving the at least one client communication connection from the first server to the second server based on a measurement of overall system efficiency determined from the measurement of overall system load and the client load on each of the plurality of storage servers.
2. (Canceled).

3. (Previously Presented) A system according to claim 1, further comprising:
a load distribution process for determining resource loads when moving client connections among storage servers.
4. (Original) A system according to claim 1, further comprising:
a client allocation process for causing a client to communicate with a selected one of said plurality of servers.
5. (Original) A system according to claim 1, further comprising:
a client allocation process for distributing incoming client requests across said plurality of servers.
6. (Previously Presented) A system according to claim 1, wherein the client distribution process includes a round robin distribution process.
7. (Previously Presented) A system according to claim 1, wherein the client distribution process includes a client redirection process.
8. (Previously Presented) A system according to claim 1, wherein the client distribution process includes a disconnect process for dynamically disconnecting a client from a first server and reconnecting to a second server.
9. (Canceled).
10. (Previously Presented) A system according to claim 1, wherein the client distribution process adaptively distributes client connections across the plurality of servers as a function of dynamic variations in measured system load.
11. (Original) A system according to claim 1, further comprising:
a storage device for providing storage resources to the plurality of clients.

12. (Canceled).
13. (Original) A storage area network, comprising:
 - a plurality of servers each configured as a server of claim 1.
14. (Currently Amended) An information storage server apparatus comprising:
 - one or more client communication connections to a plurality of client devices;
 - a server communication connection to at least one other storage server;
 - a storage device for storing only a portion of a partitioned resource thereon, such that only a first portion of a partitioned resource is stored on the storage server, and such that other portions of the partitioned resource are stored on the other storage server;
 - a request handler, for receiving requests for access to the partitioned resource via at least one client communication connection, and determining which portions of the partitioned resource are stored on the storage device, and which portions of the partitioned resource are stored on the other storage server;
 - a load monitor, for:
 - determining a local load placed on the storage server by the request handler;
 - receiving information via the server communication connection concerning a load on the other server; and
 - generating a measure of load from both the local load and the load on the other server; and
 - a client load distributor, responsive to the load monitor, for closing a client communication connection to at least one client device when the measure of load indicates the storage server is over utilized and overall system efficiency may be improved.
15. (Previously Presented) The apparatus of claim 14 additionally wherein the client load distributor causes the at least one client device to direct a subsequent request for access to the partitioned resource to the other server.

16. (Previously Presented) The apparatus of claim 14 wherein the partitioned resource is at least one of a file, a file directory, a data block, a page, a database, or an application program.
17. (Previously Presented) The apparatus of claim 14 wherein the storage server and the other storage server are addressable by the client as a server group.
18. (Previously Presented) The apparatus of claim 17 wherein closing of the client communication connection by the client load distribution process is transparent to the client.
19. (Previously Presented) The apparatus of claim 14 additionally comprising:
 - a routing table, for storing information concerning which portions of the partitioned resource are stored on the storage server and which portions of the partitioned resource are stored on the other storage server.
20. (Previously Presented) The apparatus of claim 14 wherein the storage server and the other storage server are part of a storage area network.
21. (Previously Presented) The apparatus of claim 14 wherein the storage server and the other storage server are equivalent servers such that each equivalent server comprises a request handler, a load monitor and a client load distributor.
22. (Currently Amended) A method for handling information by providing a storage server comprising:
 - connecting to a plurality of client devices over one or more client communication connections;
 - connecting to at least one other storage server over a server communication connection;

storing only a portion of a partitioned resource on a storage device local to the storage sever, such that only a first portion of the partitioned resource is stored on the storage server, and such that at least one other portion of the partitioned resource is stored on the other storage server;

receiving requests for access to the partitioned resource from at least one of the clients, and determining which portions of the requested partitioned resource are stored on the storage device, and determining which portions of the requested portioned resource are stored on the other storage server;

measuring a load by

determining a local load placed on the storage server based on the requests for access to the partitioned resource;

receiving information via the server communication connection concerning a load on the other server; and

generating a load measure using both the local load and the load on the other server; and

distributing client load by closing a client communication connection from the storage server to at least one client device when the load measure indicates the storage server is over utilized and overall system efficiency may be improved.

23. (Previously Presented) The method of claim 22 wherein the step of distributing client load additionally causes the at least one client device to direct a subsequent request for access to the partitioned resource to the other server.
24. (Previously Presented) The method of claim 23 wherein the partitioned resource is at least one of a file, a file directory, a data block, a page, a database, or an application program.
25. (Previously Presented) The method of claim 22 wherein the storage server and the other storage server are addressed as a server group by the client.

26. (Previously Presented) The method of claim 22 wherein closing the client communication connection by the client load distribution process is transparent to the client.
27. (Previously Presented) The method of claim 22 additionally comprising:
 - storing information in a routing table concerning which portions of the partitioned resource are stored on the storage server and which portions of the partitioned resource are stored on the other storage server.
28. (Previously Presented) The method of claim 22 wherein the storage server and the other storage server are part of a storage area network.
29. (Previously Presented) The method of claim 22 wherein the storage server and the other storage server are equivalent servers such that each perform the steps of request handling, measuring load and distributing client load.
30. (Currently Amended) A tangible, non-transitory, computer readable medium for storing computer executable instructions for providing a storage server function, with the computer executable instructions for:
 - connecting to a plurality of client devices over one or more client communication connections;
 - connecting to at least one other storage server over a server communication connection;
 - storing only a portion of a partitioned resource on a storage device local to the storage sever, such that only a first portion of the partitioned resource is stored on the storage server, and such that at least one other portion of the partitioned resource is stored on the other storage server;
 - receiving requests for access to the partitioned resource from at least one of the clients, and determining which portions of the requested partitioned resource are stored

on the storage device, and determining which portions of the requested portioned resource are stored on the other storage server;

measuring a load by

determining a local load placed on the storage server based on the requests for access to the partitioned resource;

receiving information via the server communication connection concerning a load on the other server; and

generating a load measure using both the local load and the load on the other server; and

distributing client load by closing a client communication connection from the storage server to the at least one client device when the measure of load indicates the storage server is over utilized and overall system efficiency may be improved.